Remarks

The Office Action mailed June 13, 2005, and made final, has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1, 2, 4-8, and 10-12 are pending in this application, of which claims 1, 4-7, and 10-12 have been amended. Claims 13-19 have been canceled as directed to a non-elected invention. It is respectfully submitted that the pending claims recite allowable subject matter.

The rejection of claims 1, 2, 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Briggs et al. (U.S. Patent 5,125,849) in view of Romano (U.S. Patent 4,193,108) is respectfully traversed.

Briggs et al. describe a connector guide (30) including a body (31) having an aperture that receives a guide pin (26). In one embodiment, the body includes a counter bored aperture (40) including a groove (41) that aligns a liner (42) plugged into the aperture. The liner includes a central aperture (44, 52, 54) that may vary in size or may have a particular geometry to receive a similarly shaped pin. The connector guide is formed with different attachment features on the faces surrounding the aperture to allow different methods of attachment of the guide to a circuit board (12). One face includes a rounded projection (32) extending therefrom.

Romano describes a fastening member (30) for attaching an edge connector (18) to a circuit board (10). The fastening member includes a first planar portion (34) for securing the fastening member to the circuit board and an end portion (36) that overlaps the edge of the circuit board for retaining the edge connector to the fastening member. The planar portion has a back surface (38), a mating surface (40), and an aperture (42) through the planar portion. A plurality of flexible ears (44) are arranged about the aperture and project outwardly from the mating surface for insertion through an opening (17, 19) on the circuit board. The ears define a passage (47) that receives a pin (32) to expand the ears. The fastening member includes a bore (28) that receives a threaded insert (54) that receives a threaded fastener (60, 62).

Claim 1 recites a guide module for connecting a primary circuit board and a secondary circuit board to a common backplane circuit board, the primary and secondary boards being in a tiered arrangement with both the primary and secondary circuit boards having interface connections on the backplane circuit board, the module including: "a body having opposed top and bottom surfaces, said bottom surface including a step configured to engage an edge of the primary circuit board, and wherein said body includes a front face between said top and bottom surfaces, said front face defining a receptacle for a guide pin on the backplane circuit board; and a locating feature located on one of said body top and bottom surfaces, said locating feature comprising a raised fitting having a base and a boss positioned at said base, said locating feature establishing a stack height for the secondary circuit board with respect to the primary circuit board".

It is respectfully submitted that neither Briggs et al. nor Romano, considered alone or in combination, describe nor suggest the apparatus recited in claim 1. Specifically, neither Briggs et al. nor Romano, considered alone or in combination, describe nor suggest a locating feature including a raised fitting having a base and a boss positioned at the base. Rather, Briggs et al. describe a connector guide formed with different attachment features on various faces to allow different methods of attachment of the guide to a circuit board, none of the faces including a boss. Romano describes a fastening member without a raised fitting and a boss on a top or bottom surface.

Accordingly, claim 1 is submitted to be patentable over Briggs et al. in view of Romano.

Claim 2 depends from independent claim 1. When the recitations of claim 2 are considered in combination with the recitations of claim 1, Applicants submit that dependent claim 2 likewise is patentable over Briggs et al. in view of Romano.

Claim 7 recites a guide module for connecting a primary circuit board and a secondary circuit board to a common backplane circuit board, the primary and secondary boards being in a tiered arrangement with both said primary and secondary circuit boards having interface

connections on the backplane circuit board, the module including: "a body including opposed top and bottom surfaces, said bottom surface including a step configured to engage an edge of the primary circuit board, and wherein said body includes a front face between said top and bottom surfaces, said front face defining a receptacle for a guide pin on the backplane circuit board; and a locating feature located on one of said body top and bottom surfaces, said locating feature comprising a raised fitting having a base and a boss positioned at said base, said locating feature defining a stacking plane for the secondary circuit board when the secondary circuit board is coupled to the primary circuit board".

It is respectfully submitted that neither Briggs et al. nor Romano, considered alone or in combination, describe nor suggest the apparatus recited in claim 7. Specifically, neither Briggs et al. nor Romano, considered alone or in combination, describe nor suggest a locating feature including a raised fitting having a base and a boss positioned at the base. Rather, Briggs et al. describe a connector guide formed with different attachment features on various faces to allow different methods of attachment of the guide to a circuit board, none of the faces including a boss. Romano describes a fastening member without a raised fitting and a boss on a top or bottom surface.

Accordingly, claim 7 is submitted to be patentable over Briggs et al. in view of Romano.

Claim 8 depends from independent claim 7. When the recitations of claim 8 are considered in combination with the recitations of claim 7, Applicants submit that dependent claim 8 likewise is patentable over Briggs et al. in view of Romano.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of claims 1, 2, 7, and 8 be withdrawn.

The rejection of claims 5, 6, 11, and 12 under 35 U.S.C. § 103 as being unpatentable over Briggs et al. and Romano as applied to claim 1 and further in view of Speraw et al. (U.S. Patent No. 5,018,982) is respectfully traversed.

Briggs et al. and Romano are described above. Speraw et al. describe a standoff (40) for stacking circuit boards. The standoff (40), which is fabricated from a metallic material, establishes spacing between the boards and provides electrical connection between adjacent boards. Each standoff is secured to a printed circuit board with a plastic retainer (30). The retainer is received in the body (41) of the standoff and has an end that forms a male connector (33) that is received in holes (14) in the circuit boards. The standoffs and retainers are secured together and mounted to a cabinet base (15) that includes supports (17), each of which has a threaded insert for receiving a screw (19) which extends through the column of stacked standoffs. A screw cap (20) is disposed between the head of screw and the top most circuit board.

Claims 5 and 6 depend from claim 1 which recites a guide module for connecting a primary circuit board and a secondary circuit board to a common backplane circuit board, the primary and secondary boards being in a tiered arrangement with both the primary and secondary circuit boards having interface connections on the backplane circuit board, the module including: "a body having opposed top and bottom surfaces, said bottom surface including a step configured to engage an edge of the primary circuit board, and wherein said body includes a front face between said top and bottom surfaces, said front face defining a receptacle for a guide pin on the backplane circuit board; and a locating feature located on one of said body top and bottom surfaces, said locating feature comprising a raised fitting having a base and a boss positioned at said base, said locating feature establishing a stack height for the secondary circuit board with respect to the primary circuit board".

It is respectfully submitted that none of Briggs et al., Romano and Speraw et al., considered alone or in combination, describe or suggest the apparatus recited in claim 1. Specifically, none of Briggs et al., Romano and Speraw et al., considered alone or in combination, describe nor suggest a locating feature including a raised fitting having a base and a boss positioned at the base. Rather, Briggs et al. describe a connector guide formed with different attachment features on various faces to allow different methods of attachment of the guide to a circuit board, none of the faces including a boss. Romano describes a fastening

member without a raised fitting and a boss on a top or bottom surface. Speraw et al. describe standoffs and retainers that are secured together and mounted to a cabinet base.

Accordingly, claim 1 is submitted to be patentable over Briggs et al. in view of Romano, and further in view of Speraw et al.

Claims 5 and 6 depend from independent claim 1. When the recitations of claims 5 and 6 are considered in combination with the recitations of claim 1, Applicants submit that dependent claims 5 and 6 likewise are patentable over Briggs et al. in view of Romano and further in view of Speraw et al.

Claims 11 and 12 depend from claim 7 which recites a guide module for connecting a primary circuit board and a secondary circuit board to a common backplane circuit board, the primary and secondary boards being in a tiered arrangement with both said primary and secondary circuit boards having interface connections on the backplane circuit board, the module including: "a body including opposed top and bottom surfaces, said bottom surface including a step configured to engage an edge of the primary circuit board, and wherein said body includes a front face between said top and bottom surfaces, said front face defining a receptacle for a guide pin on the backplane circuit board; and a locating feature located on one of said body top and bottom surfaces, said locating feature comprising a raised fitting having a base and a boss positioned at said base, said locating feature defining a stacking plane for the secondary circuit board when the secondary circuit board is coupled to the primary circuit board".

It is respectfully submitted that none of Briggs et al., Romano and Speraw et al., considered alone or in combination, describe or suggest the apparatus recited in claim 7. Specifically, none of Briggs et al., Romano and Speraw et al., considered alone or in combination, describe nor suggest a locating feature including a raised fitting having a base and a boss positioned at the base. Rather, Briggs et al. describe a connector guide formed with different attachment features on various faces to allow different methods of attachment of the guide to a circuit board, none of the faces including a boss. Romano describes a fastening

member without a raised fitting and a boss on a top or bottom surface. Speraw et al. describe standoffs and retainers that are secured together and mounted to a cabinet base.

Accordingly, claim 7 is submitted to be patentable over Briggs et al. in view of Romano and further in view of Speraw et al.

Claims 11 and 12 depend from independent claim 7. When the recitations of claims 11 and 12 are considered in combination with the recitations of claim 7, Applicants submit that dependent claims 11 and 12 likewise are patentable over Briggs et al. in view of Romano and further in view of Speraw et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of claims 5, 6, 11, and 12 be withdrawn.

The rejection of claims 4 and 10 under 35 U.S.C. § 103 as being unpatentable over Briggs et al. and Romano in view of Crowley (U.S. Patent No. 5,963,432) is respectfully traversed.

Briggs et al. and Romano are described above. Crowley describes a standoff for stacking circuit boards. In one embodiment, a snap lock standoff (200) includes a plurality of snap lock prongs (251, 252, 253 and 254) as a means of affixing a top most circuit board. The prongs have an outward tapered portion (290), an inward tapered portion (280), a lock ring portion (270), and a shaft portion (260) that connects the tapered portions and the lock ring portion to the top portion (120) of the standoff. A circuit board with holes can be placed over the tapered portions and pushed down over the lock ring portions causing the prongs to push inward. The prongs snap back into position after the circuit board passes over the lock ring portions so that the board is held in place by the underside of the lock ring portions.

Claim 4 depends from claim 1 which recites a guide module for connecting a primary circuit board and a secondary circuit board to a common backplane circuit board, the primary and secondary boards being in a tiered arrangement with both the primary and secondary circuit

boards having interface connections on the backplane circuit board, the module including: "a body having opposed top and bottom surfaces, said bottom surface including a step configured to engage an edge of the primary circuit board, and wherein said body includes a front face between said top and bottom surfaces, said front face defining a receptacle for a guide pin on the backplane circuit board; and a locating feature located on one of said body top and bottom surfaces, said locating feature comprising a raised fitting having a base and a boss positioned at said base, said locating feature establishing a stack height for the secondary circuit board with respect to the primary circuit board".

It is respectfully submitted that none of Briggs et al., Romano and Crowley, considered alone or in combination, describe or suggest the apparatus recited in claim 1. Specifically, none of Briggs et al., Romano and Crowley, considered alone or in combination, describe nor suggest a locating feature including a raised fitting having a base and a boss positioned at the base. Rather, Briggs et al. describe a connector guide formed with different attachment features on various faces to allow different methods of attachment of the guide to a circuit board, none of the faces including a boss. Romano describes a fastening member without a raised fitting and a boss on a top or bottom surface. Crowley describes a standoff having snap lock prongs and a lock ring.

Accordingly, claim 1 is submitted to be patentable over Briggs et al. in view of Romano and further in view of Crowley.

Claim 4 depends from independent claim 1. When the recitations of claim 4 are considered in combination with the recitations of claim 1, Applicants submit that dependent claim 4 likewise is patentable over Briggs et al. in view of Romano and further in view of Crowley.

Claim 10 depends from Claim 7 which recites a guide module for connecting a primary circuit board and a secondary circuit board to a common backplane circuit board, the primary and secondary boards being in a tiered arrangement with both said primary and secondary circuit

boards having interface connections on the backplane circuit board, the module including: "a body including opposed top and bottom surfaces, said bottom surface including a step configured to engage an edge of the primary circuit board, and wherein said body includes a front face between said top and bottom surfaces, said front face defining a receptacle for a guide pin on the backplane circuit board; and a locating feature located on one of said body top and bottom surfaces, said locating feature comprising a raised fitting having a base and a boss positioned at said base, said locating feature defining a stacking plane for the secondary circuit board when the secondary circuit board is coupled to the primary circuit board".

It is respectfully submitted that none of Briggs et al., Romano and Crowley, considered alone or in combination, describe or suggest the apparatus recited in claim 7. Specifically, none of Briggs et al., Romano and Crowley, considered alone or in combination, describe nor suggest a locating feature including a raised fitting having a base and a boss positioned at the base. Rather, Briggs et al. describe a connector guide formed with different attachment features on various faces to allow different methods of attachment of the guide to a circuit board, none of the faces including a boss. Romano describes a fastening member without a raised fitting and a boss on a top or bottom surface. Crowley describes a standoff having snap lock prongs and a lock ring.

Accordingly, claim 7 is submitted to be patentable over Briggs et al. in view of Romano and further in view of Crowley.

Claim 10 depends from independent claim 7. When the recitations of claim 10 are considered in combination with the recitations of claim 7, Applicants submit that dependent claim 10 likewise is patentable over Briggs et al. in view of Romano and further in view of Crowley.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 4 and 10 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

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